**Nerve Blocks In Ruminant Foot Surgery**

IV Regional Anaesthesia

IV regional anaesthesia is preferred, and is referred to as a Bier block. The anaesthetic is unable to easily progress up the blood vessels in the limb, remaining in the region it is needed, through the use of a tourniquet. In cattle, the tourniquet is placed proximal to the fetlock, and in small ruminants it is placed proximal to the elbow in the forelimb and proximal to the hock in the hindlimb.

Blood vessels used for this procedure are:

* Thoracic limb
	+ Dorsal metacarpal vein
	+ Planter metacarpal vein
	+ Radial vein
	+ Cephalic vein (Sheep/goats only)
* Pelvic limb
	+ Lateral saphenous vein
	+ Lateral plantar digital vein

Only one vein needs to be used to administer the anaesthesia.

The drug used to perform this is lidocaine. In cattle, 10-30 ml is used, and in sheep and goats it is given 4 mg/kg. The recommended size of needle is 20-gauge in cattle, and 25-gauge in small ruminants. Anaesthesia will take roughly 10 minutes to occur, and the tourniquet can be kept on for an hour. After, the tourniquet must be loosened slowly to prevent the drug from flooding into general circulation suddenly.

Ring Block

A simple method for regional anaesthesia, given distally to injection sites. This nerve block is performed where the proximal and middle metacarpus/metatarsus meet. The quantity of drugs used are 10-15 ml of lidocaine in cows and lidocaine (1 mg/kg) and bupivacaine (0.5 mg/kg) in the same syringe in sheep and goats. Multiple injections from this single volume are given.

Four-Point Nerve Block

Similar to the ring block, but used at the pastern in cattle. Using 5 ml of lidocaine for each injection, there are 4 areas to distribute the drugs to. First, the dorsal aspect of the pastern, between the proximal phalanges, distally to the fetlock. One injection is given deep, and one is given superficially, using 5ml each time. The second area is the palmar/plantar aspect of the pastern, distally to the dewclaws, using the same deep/superficial technique. The last two areas are the digital nerves that are medial and lateral to the fetlock joint. The are found about 2cm dorsally and proximally to the dewclaws, and 5ml should be given to each.